

## PATENT SPECIFICATION

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(54) IMPROVEMENTS IN OR RELATING TO ANCHORAGES  
 FOR SEAT BELTS

(71) We, CHRYSLER UNITED KINGDOM LIMITED, a British Company, of Devonshire House, Piccadilly, London, W.1., do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to anchorages for seat belts for use in vehicles including both motor vehicles and aircraft.

The invention provides an anchorage for a vehicle seat belt comprising a post for mounting at one end on a vehicle body and having a head at the other end thereof, a member for attachment to one end of the seat belt, which member has a slot having a first part sufficiently wide to permit the head to pass through the slot and a second restricted part capable of receiving the post but not the head of the post, a retainer device comprising a base which engages one side of the member around the slot, a projecting spigot on the base which extends into the first part of the slot when the post is engaged in the second part of the slot to prevent the post entering the first part of the slot and a resilient leg formed integrally with the base, which leg extends through the spigot and is formed with an abutment which engages the opposite side of the member to the base to retain the spigot in the first part of the slot.

The projecting spigot may comprise a dependent skirt on the base and the resilient leg may extend downwardly from the base within the skirt.

The base may be formed with an arcuate recess in which the post engages.

The retainer device may have two resilient arms integral with the base which embrace the post.

The following is a description of one embodiment of the invention reference being made to the accompanying drawings in which:—

Figure 1 is a sectional view of a seat belt anchorage;

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Figure 2 is a partly sectioned plan view of the anchorage;

Figure 3 is a first section of a resilient retaining member of the anchorage;

Figure 4 is a second section of the resilient retaining member;

Figure 5 is a plan view of another embodiment of a seat belt anchorage;

Figure 6 is a part-sectional view on line 6—6 of Figure 7 showing a further embodiment of a seat belt anchorage;

Figure 7 is a part-sectional plan view of the anchorage shown in Figure 6,

Figure 8 is a sectional view on the line 8—8 of Figure 7; and

Figure 9 is a plan view of the aperture in the belt attachment member of the anchorage shown in Figures 6, 7 and 8.

The anchorage comprises a post in the form of a headed bolt 10 which is screwed into an anchor plate assembly 11 on the vehicle or aircraft body. A stepped sleeve 13 is fitted around the bolt between the head 12 of the bolt and the surface 14 of the plate 11. The upper portion 15 of the sleeve 13 is of smaller diameter than the bolt head 12 and the lower portion 16 of the sleeve may be of similar diameter to the diameter of the head 12 of the bolt, thus providing a neck between the head 12 and the lower portion 16 of the sleeve. Alternatively the upper portion 15 may be integral with the bolt 10 and the lower portion 16 may be a plain washer, or both upper and lower portions may be separate washers.

A plate 17 at one end of a safety belt has a slot 18. The slot has a large part in the form of an aperture 20 to slip over the head 12 of the bolt 10 and a smaller part in the form of an aperture 21 adjacent to the end 19 of the plate to engage the upper portion 15 of the spacer 13 and the underside of the head 12 of the bolt 10, preventing disengagement of the plate 17 by movement of the plate 17 relative to the axis of the bolt 10.

A resilient plastics retaining member 22 has located on top of the plate 17 a base in which a rectangular aperture 23a is formed

adjacent one end. A leg 23 integral with the base extends downwardly as shown in Figures 1 and 4 through the aperture 23a and through the aperture 20 in the plate 17. The lower end of the leg 23 has an ear 25 which engages the underside of the plate 17. The leg 23 can be disengaged from the plate by inserting a screw driver end, or the like, into a gap 27 between the leg and the plate and twisting.

The end 28 of the base of the retainer 22 remote from end 24 is curved inwardly towards the centre of the base to engage the upper portion 15 of the sleeve 13 and two converging arms 29 extend from the base at each end of the curved portion 28. These arms are curved downwardly as shown in Figure 4 to provide a degree of resilience so that pressure is applied axially of the bolt to prevent rattle of the belt attachment member 17 when the retainer 22 is in position. The underside of the retainer 22 has downwardly dependent skirt portions 30 of circular shape extending around the aperture 23a between the edges 31 and 31a and the curved portion 28, to snugly engage into the large aperture 20 of the belt attachment member 17. It will be seen that after engaging the aperture 21 of the belt attachment plate 17 under the head 12 of the bolt 10, the retainer arms 29 are then inserted under the head 12 and on to the upper surface 32 of the bolt attachment member 17 so that the curved portion 28 abuts the spacer portion 15 and is underneath the edge of the head 12. The resilient leg 23 is then displaced inwardly to permit its entry into aperture 20, the retainer 22 is then pushed down so that the sides of the skirt 30 are in engagement with the edges of aperture 20 and the ear 25 of the resilient leg is in engagement with the underside of the belt attachment member 17. The retainer cannot now be removed until the leg portion 25 is disengaged and the spigot skirt 30 is lifted clear of the aperture 20 against the resisting action of the resilient arms 29 of the retainer 22.

In the modified arrangement shown in Figure 5 the arms 29 have been omitted. The arrangement is otherwise similar to that described above except that the underside of the curved portion 28 is chamfered to facilitate insertion of the retainer under the head 12 of the fixing member.

In the further embodiment shown in Figures 6 to 9, the end 40 of the retaining member 41 is straight and abuts the outer diameter of the upper portion 15 of the stepped spacer 13, the dependent skirt 42 (corresponding to 30) has curved portions which give way to two straight portions 43 extending to the straight end 40 to engage

into a straight edged portion 44 of the elongated slot 45 in the attachment member 46 to prevent rotational movement of the retaining member 41 relative to the member 46. The dependent skirt continues along end 40 and the lower edge 47 of the skirt is rounded. This together with an arcuate recess 48 in the top surface of the member 41 (as best seen in Figure 7) facilitates insertion of the end 40 under the head of the fixing member 10.

To minimise any tendency of the end 50 of the belt attachment member 46 to move axially relative to the bolt 10 a raised portion 51 may be formed in the attachment member 46 between the edge of the aperture 45 and the periphery of the end 50, either by a swaged ridge as illustrated in Figures 6, 7 and 8, or by a more local indentation adjacent the edge of aperture 45. This feature may also be incorporated in the other embodiment shown in Figure 5 is required.

#### WHAT WE CLAIM IS:—

1. An anchorage for a vehicle seat belt comprising a post for mounting at one end on a vehicle body and having a head at the other end thereof, a member for attachment to one end of the seat belt, which member has a slot having a first part sufficiently wide to permit the head to pass through the slot and a second restricted part capable of receiving the post but not the head of the post, a retainer device comprising a base which engages one side of the member around the slot, a projecting spigot on the base which extends into the first part of the slot when the post is engaged in the second part of the slot to prevent the post entering the first part of the slot and a resilient leg formed integrally with the base, which leg extends through the spigot and is formed with an abutment which engages the opposite side of the member to the base to retain the spigot in the first part of the slot.
2. An anchorage as claimed in claim 1 wherein the projecting spigot comprises a dependent skirt on the base and the resilient leg extends downwardly from the base within the skirt.
3. An anchorage as claimed in claim 1 or claim 2 wherein the base is formed with an arcuate recess in one edge thereof in which the post engages.
4. An anchorage as claimed in claim 1 or claim 2 wherein the retainer device is provided with two resilient arms which embrace the post and secure the retainer device to the post.
5. An anchorage for a seat belt substantially as described with reference to Figures 1 to 4, or Figure 5 or Figures 6 to 9 of the accompanying drawings.

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